



# *Environmental Excellence*

**VOLUME 3; NO. 2: SUMMER 2002**

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## *New cave in Greene County...time capsule to the past*

*By Dr. Kenneth C. Thomson, Professor of Geology  
Southwest Missouri State University*

A new cave discovered when contractors cut through its roof is proving to be a glimpse back in time several thousand years. When the cave was discovered in September last year, cavers Matt Forir and Lisa McCann were allowed to explore it briefly and they came back with reports of bear tracks and possible cat tracks. From the size of the tracks we knew they were not of modern-day animals. At that time County officials and cave scientists decided to seal the cave while the road was being constructed and a design for a gate to protect it was made. In March, the road was far enough along to install the gate for the cave. The gate was completed in early April and the study of Riverbluff Cave, as it was named, was started.

Trails were constructed to keep explorers from damaging the pristine features found in the cave. Shortly after the cave was opened, one of the explorers, Matt Forir, a student at SMSU and a paleontologist, found a snake skeleton in one of the cave passages. In another trip he found some preserved turtle shells which date back several thousand years. While Matt was exploring and finding these valuable treasures, other members of the study team started mapping the cave and photographing the features. We had decided to go very slowly in our mapping and study process because of the sensitive nature of what we were finding.

The gate for this cave was very complex and we felt that it would protect the cave. Unfortunately, vandals decided that the gate was a challenge for them and they broke in, damaging one of the gates and doing damage to the cave. We have been able to clean up most of the damage and have reinforced the gates and added additional security measures.

The study of the cave is continuing. We're hoping to make the cave available for teaching purposes and research. There is much yet to be found and many studies to be made.

There are a lot of people to thank for the way this project has come together: The Greene County Commission, which recognized the importance of a cave and the need to protect it; the Greene County Highway Department, for their help in the construction of the cave gate and protection of the cave opening; and the employees of Journagan Construction Company, for their help and concern during this project.

**Springfield-Greene County Choose Environmental Excellence (417) 864-2006**



*Printed on Recycled Paper*

# ***State of the Environment-Springfield/Greene County - 2002***

*by Barbara Lucks*

It is a well known, but less well understood fact that many conditions relating to human health are both directly, as well as indirectly, linked to the environment in which we live, work, learn and play. It, therefore, follows that for a community to effectively address the improvement of its health status, attention must include the health of its environment.

In 1996, working with the Health Collaborative of the Community Partnership of the Ozarks (CPO), the Springfield/Greene County Department of Public Health and Welfare published the "State of the Community's Health - Springfield/Greene County." After a period of time following distribution of the report, community hearings were conducted to gather information leading to a consensus set of focus areas for community health improvement. That process resulted in ten areas of focus. A similar process will be utilized for the "State of the Environment - Springfield/Greene County - 2002" report.

A national effort led by the National Association of County and City Health Officials (NACCHO) developed the community environmental assessment guidance document, known as the "Protocol for Assessing Community Excellence in Environmental Health" (PACE EH). Utilizing that document, the Springfield/Greene County Health Department called upon the Environmental Collaborative of the CPO to partner in this community-wide assessment effort. It was my pleasure to chair the Environmental Collaborative as we partnered with the Health Department in this effort. At the Collaborative meeting in October, 2000, the PACE EH process began.

The national pilot tests on this process found an average time requirement of 18 months or two years for performing the assessment. Working with the Collaborative members were Clay Goddard, Community Environmental Health Planner, and Cory Baker, Health Planning Intern of the Health Department. Springfield/Greene County is the first community in Missouri and one of the first communities in the country to conduct this comprehensive assessment.

Areas explored include: population, growth and urban sprawl; water quality; air quality; solid waste management/recycling; community health; and environmental education/environmental justice. Although developing and publishing this report has required great effort and dedication on the part of those involved, the real work has just begun.

Now attention must be directed toward determining the focus areas for environmental health improvement, selection of the consensus set of indicators and finally, establishment of work groups focusing on the improvement strategies and processes. This report should serve as a valuable resource to those efforts. To assist in the selection process, a draft set of indicators is included within the body of the report.

So that the community can gauge progress on efforts toward improving its health status, the Health Department publishes each April a Community Health Report Card. Key community health indicators are benchmarked and displayed over a five-year rolling average together with the current year's data compared to the same data for the State. It is the Health Department's intent to develop a similar report card on the environment to serve the same purpose.

Community presentations based on this document will take place in the upcoming months. The Springfield/Greene County Environmental Advisory Board has agreed to hold a community-wide hearing later this year in which the community will be able to comment on their environmental concerns and add any additional areas of concern.

Now, it is the community's turn to roll up its sleeves and get involved in both helping preserve and enhance the health of our environment, which is so critical to the great quality-of-life of this community. Citizens are encouraged to read the report and then ask "What part can I play in preserving and, yes, improving the environment in which I live?" In doing so, we can all be involved as stewards in preserving our environmental legacy for future generations.

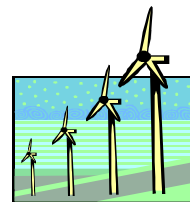
Copies of the report are available from the Springfield/Greene County Health Department (417-864-1655).

*~Barbara Lucks is Materials Recovery/Education Coordinator  
for the Solid Waste Management Division of Springfield's Public Works Department.  
She also serves as Chair of the Environmental Collaborative of the Community Partnership of the Ozarks.*

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## ***Wind Current--Renewable Energy from CU***

In response to research showing significant customer interest in a renewable power program, in the summer of 2000, City Utilities of Springfield (CU) implemented the sale of “green” power to its residential and commercial customers. Carrying the brand name and tagline “*Wind Current--Renewable Energy from CU*,” the community-owned utility in Springfield purchases 35,000 kilowatt hours of wind-generated power each month, transported into the utility system from a Western Resources Inc. wind turbine facility located in Kansas.



The wind-generated energy is marketed to customers who can elect to help subsidize this renewable power as a part of the utility’s mix of generation sources. CU markets the energy for resale to customers in 100-kilowatt hour blocks, priced at \$5 per block per month. Residential or business customers who request *WindCurrent* receive a window decal showing they support green power and an 18-inch windssock bearing the program logo.

CU’s *WindCurrent* program averages customer purchases of about 300 blocks per month, or 30,000 kilowatt hours, to about 200 customers, indicating that some customers elect to purchase multiple blocks of the “green” power. Current enrollment stands at 137 customers purchasing 248 blocks of *WindCurrent*. The utility reports that beyond customer enrollments in the program, benefits include increased customer awareness of the green power issue and their role in partnering with CU to impact generation resources. Call 863-9000 to request *WindCurrent* for your home or business.

## ***Habitat for Humanity & Commercial Metals Company***

by Bill Yoast



What in the world can Habitat for Humanity (HFH) and Commercial Metals Company (CMC) (a scrap metal recycling center) have in common?

When Commercial Metals was asked to become a partner with HFH two years ago, they asked themselves the same question. As the local manager of the HFH organization explained how CMC could help with this worldwide project, the recycler became interested and offered to help. Activities such as these are “business as usual” with CMC’s recycling process.

The real people that make this possible are the people who bring their aluminum cans in to the recycling center and just say, “Please donate these aluminum cans to HFH.” Anyone can donate their cans to HFH by simply specifying that wish to CMC. It’s really a good feeling when someone asks, “Is this the facility that accepts aluminum cans for Habitat for Humanity?” CMC employees say they also can see the pride in their faces as they donate their cans. CMC encourages everyone that can to bring their aluminum cans to CMC and make a difference for Habitat for Humanity.

As an example, during April’s Earth Day activities, partnering with Commercial Metals Company, the City of Springfield’s Solid Waste Management Division donated the cans collected at their Lone Pine Recycling Center during the April 20th Earth Day Celebration. This totaled 460 pounds. At the HFH Re-Store, on that same day, 310 pounds were collected. April’s collection for Habitat totaled 880 pounds of cans.

Habitat for Humanity is a non-profit, ecumenical Christian housing ministry seeking to eliminate poverty housing and homelessness from the world, and making decent shelter a matter of conscience and action.

“It’s our pleasure to be of assistance to such a great and humane cause,” say the management and employees of CMC.

## ***We’re on the Web...***

**[http://www.ci.springfield.mo.us/community/cee\\_newsletter.html](http://www.ci.springfield.mo.us/community/cee_newsletter.html)**

...includes Directory of Environmental Service Organizations, CEE Newsletter, and links to other information.

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## ***No More Trash!***

Why do we still mess up our environment? A litter-free Missouri is the dream of a new statewide campaign and Missourians of all ages can help to make the dream come true. The Missouri Department of Natural Resources is working with several other state agencies, including the Missouri Department of Transportation and the Missouri Conservation Department, to launch a new statewide campaign against littering.

Finding opportunities to recycle, coming up with innovative reuse practices and planning how not to gather and then throw away so much junk are probably a better use of time than throwing garbage on a neighbors property or tossing it at our environmental treasures. We can't recover, at any cost, what natural beauty is lost to ignorance, greed, or carelessness.

Please join in educating children, friends, and neighbors to think before we toss our trash away. Check out the website...

**[www.nomoretrash.com](http://www.nomoretrash.com)**

*~Missouri Conservationist, May 2002*

*~Missouri Wildlife, May 6, 2002*

## ***The Healing Power of Nature***

A new Rutgers University study shows that flowers ease depression, inspire social networking, and refresh memory in senior citizens. Add this to previous studies showing that plants clean the air, create a more enjoyable environment, and a more productive workplace, and interiorscapers have yet another powerful sales tool. More than 100 senior citizens participated in the six-month Rutgers study, in which some seniors received flowers and others did not. The results shed new light on how nature's support systems help seniors cope with the challenges of aging.



Researchers discovered three major findings.

1. *Flowers decrease depression.* Studies show a significant increase in happiness and positive moods when flowers were present.
2. *Flowers refresh recent memory.* Senior citizens performed better on everyday memory tasks and experienced enriched personal memories in the presence of flowers.
3. *Flowers encourage companionship.* Seniors who received flowers re-engaged with members of their communities and enlarged their social contacts to include more neighbors, religious support, and even medical personnel.

Specifically, 81% of seniors who participated in the study reported a reduction in depression after receiving flowers. Seventy-two percent scored very high on memory tests compared to seniors who did not receive flowers, and 40% reported broadening their social circles beyond family and close friends.

"Instinct tells us that flowers lift our spirits, but their effects on seniors are especially profound, if not surprising," noted Dr. Jeannette Haviland-Jones, professor of psychology and director of the Human Development Lab at Rutgers. "Our research shows that a small dose of nature, like flowers, can do a world of wonder for our well-being as we age."



## ***Consider how your everyday actions affect life on Earth...***

Show your commitment to conserving our planet's resources by recycling glass, paper, and plastic. Whenever possible, buy products made from recycled materials.

Replace standard light bulbs with energy-efficient fluorescent, which help keep CO<sub>2</sub> out of the atmosphere.

Buy wood products with the Forest Stewardship Council (FSC) label that marks wood products from well-managed, independently certified forests--or buy alternative wood products manufactured from recycled materials.

Green up your yard using natural products instead of pesticides. Use traps, parasites, and natural predators.

Educate yourself about the threats facing our wildlife and wetlands.

Find the tools and information you need to make planet-healthy choices for your everyday life.

To learn more about what you can do to make planet-healthy choices in your everyday life, check out

**[www.worldwildlife.org](http://www.worldwildlife.org)**

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## ***Greenwashing - What to Watch For and How to Report It***

“Greenwashing,” or trumping up environmental claims about products without the facts to support those claims, was widespread in the late 1980s and early 1990s as advertisers tried to capitalize on the renewed environmental consciousness of U.S. consumers. While greenwashing seemed to diminish after the Federal Trade Commission issued its guidelines in 1992, National Recycling Coalition members report seeing deceptive advertising appearing again.

FTC’s Environmental Marketing Guides, also called the “Green Guides,” apply to all forms of marketing for products and services: labels, advertisements, package inserts, promotional materials, words, symbols, logos, product brand names and marketing on the Internet or via email. The guides cover terms such as *biodegradable*, *compostable*, *recyclable* and *recycled*. The guidelines require, for example, that if a product is labeled “recycled,” it must include the percentage of recycled content--unless it’s 100 percent.

The FTC has developed two guides for consumers: “Eco-Speak: A User’s Guide to the Language of Recycling” and “Sorting Out Green Advertising Claims.” For businesses, the FTC provides “Complying with Environmental Marketing Guides” and “Environmental Marketing Claims.” NRC encourages you to use the information in these guides not only to educate yourself about the rules for environmental marketing, but to educate your colleagues, residents, and businesses in your area as well.

Recycling advocates and educators need to help ensure that terms like *recycled* and *recyclable* are used correctly. If you believe a product or manufacturer is violating the FTC guidelines, report them to the FTC via the agency’s [online complaint form](#) at <[www.ftc.gov](http://www.ftc.gov)> or by calling (877) FTC-HELP.

~NRC March 2002 Recycling Policy Reporter **C**

## ***Computer Recycling Available in Springfield!***



An estimated 500 million personal computers will become obsolete from 1997 through 2007, according to Stanford University. In the meantime, the average life span of a personal computer has steadily declined from 4.5 years in 1992 to 2.8 years today. E-waste has become a major source of concern for solid waste professionals.

Businesses, in particular, may unknowingly face challenges regarding the disposal of their obsolete computers. Computer monitors generated from businesses are considered a waste item requiring special disposal.

We are very fortunate in Springfield to have a facility that will accept computers for recycling and proper disposal. Usable items are resold to the public and components that cannot be resold are further disassembled and sold for parts.

Computer Recycling Center, a non-profit 501( c ) 3 organization is located at 1437-B North National (Division and National) in Springfield. They can be reached by phone: (417) 866-2588 or e-mail: [computerrecyclingcenter@hotmail.com](mailto:computerrecyclingcenter@hotmail.com)

Welcome Computer Recycling Center as a new Springfield/Greene County ***Choose Environmental Excellence*** member!

## ***FYI...***

One ton of recyclables collected in a typical curbside program saves \$187 in energy costs required to produce the same products using virgin materials.

Half of all polyester carpet manufactured in the U.S. is now made from recycled plastic beverage bottles.

It takes 14-20 oz. PET bottles to make one square foot of carpet.

Polar Fleece® and Eco Spun® are two trademark polyester fibers used extensively to make fleece pile jackets and sweaters. These apparel fibers are made from soft drink and other plastic bottles.

## **Calendar of Events**

- June 1 - **Backyard Monsters** - Discovery Center Traveling Exhibit - 10 a.m.-5 p.m.  
September 8 Giant robotic insects, along with interactive learning displays, and one of the world's largest private specimen collections. General admission is free to members, \$5 children (3-12), \$6 seniors, and \$7 adults.
- June 16 **Free Family Fun Day** - Discovery Center - 1-5 p.m.  
You and your family and friends are invited to enjoy a day interacting learning and having fun. Enjoy the traveling exhibit, Backyard Monsters, plus the three floors of permanent exhibits that will engage Great Minds at Play! Children under 16 must be accompanied by an adult
- June 17-19 **Grant Writing I Workshop**  
For more information, contact Rita Mueller, Southwest Missouri Resource Conservation and Development, (417) 732-6485
- July 7-9 **Missouri Waste Control Coalition Conference** - Columbia, MO  
For more information, contact (913) 381-4458 or email [sabankes@aol.com](mailto:sabankes@aol.com)
- July 14-17 **Missouri Recycling Association Annual Conference** - Hyatt Regency Union Station, St. Louis, MO  
Visit [www.mora.org](http://www.mora.org) for more information
- July 15-17 **Grant Writing II Workshop**  
For more information, contact Rita Mueller, Southwest Missouri Resource Conservation and Development, (417) 732-6485
- July 31 - **Environmental Conference at the Lake**  
August 2 For information call Cynthia Bushmann at (573) 634-3511 or e-mail: [cbushmann@mochamber.org](mailto:cbushmann@mochamber.org)
- August 12 - **Grant Writing III Workshop**  
August 14 For more information, contact Rita Mueller, Southwest Missouri Resource Conservation and Development, (417) 732-6485
- August 23 **Insect-O-Rama** - Springfield Conservation Nature Center - 7-9 p.m.  
Insects both fascinate and "bug" us, but what would a summer evening be without them? Join insect specialists for an evening devoted to discovering insects. Bring your entire family and participate in some creepy, crawly fun! Open to all ages. No registration required.  
Call the Nature Center at (417) 888-4237 for details
- Oct. 13 **Primitive Skills Day** - Springfield Conservation Nature Center - 1-5 p.m.  
See demonstrations of flint knapping, bow and arrow construction, basketry, hide-tanning, making cordage out of plant fibers, beadwork and fire making by some of the Ozarks' best primitive skills specialists. Open to all ages.  
No registration required.  
Call the Nature Center at (417) 888-4237 for more details
- Oct. 24 - 25 **Halloween Happening** - Springfield Conservation Nature Center - 6-9pm  
Get ready for some nighttime fun and surprises on this guided Halloween hike. You'll learn fun facts and meet interesting characters along the way. Be prepared for some entertaining and extraordinary sights without the frights! Open to all ages. No registration required.  
Call the Nature Center at (417) 888-4237 for more details
- Nov. 5-7 **Foundation Development Workshop**  
For more information or to register, please call Southwest Missouri Resource Conservation and Development at (417) 732-6485
- Nov. 22-24 **Missouri Environmental Education Association Annual Conference on Environmental Education**  
For information contact Carol Harris at: [harric3@mail.conservations.state.mo.us](mailto:harric3@mail.conservations.state.mo.us)

## ***Welcome to our Choose Environmental Excellence Members***

### **BUSINESSES:**

**Arbor Care of the Ozarks**  
Kevin Harrel  
**Arbor Management Service**  
Ellen Sieloff  
**Associated Electric**  
Wendy Myers  
**The Bank**  
Todd Parnell  
**Bass Pro Shops**  
Martin G. MacDonald  
**Margaret Castry & Associates**  
Margaret Castry

**Computer Recycling Center**  
**Canbrands Products Div. of**  
**Ralston Purina Company**  
Diane LeBlanc  
**Clairant LSM (Missouri), Inc.**  
Steve Hancock  
**Commercial Metals Company**  
Bob McCarty & Bill Yoast  
**Dayco Products, Inc.**  
Jon Schimpf  
**DomesticAide Home and**  
**Office Cleaning, Inc.**  
Bob Dresner

**ECO Fundraising**  
Sally Barritt  
**First Impressions Printing**  
Danny Correll  
**For the Love of Nature**  
Luinda L. Williams  
**The Forrester Group**  
Ray K. Forrester  
**Gregg Larsen**  
**Landscaping, Inc.**  
Gregg Larsen  
**hci (Holland Chemical**  
**International)**

**Midwest Environmental**  
**Consultants, P.C.**  
Bill Lindsey  
**Naturally Yours**  
Kerry Bodenhausen  
**Salomon Smith Barney**  
Ann-Marie Shy  
**Southwestern Bell Telephone**  
Pat Bly  
**3 M Springfield**  
Emily Crites  
**Williams and Associates**  
Dalayna Williams

### **ORGANIZATIONS:**

**American Natural Fish &**  
**Wildlife Museum**  
Vickie Evans  
**City of Springfield**  
Barbara Lucks  
**City Utilities of Springfield**  
Dave Fraley  
**Computer Recycling Center**  
**Dickerson Park Zoo**  
Mike Crocker  
**Discovery Center**  
Ann Carter  
**Greene County**  
Dave Coonrod  
**Greene County Local**  
**Emergency Planning**  
**Committee**  
Joey McElwee

**Habitat for Humanity Re-Store**  
**James River Basin Partnership**  
Diana Sheridan  
**Master Gardeners of**  
**Southwest Missouri**  
Gaylord Moore  
**Missouri Department of**  
**Conservation - Southwest**  
**Regional Office**  
Francis Skalicky  
**Missouri Department of**  
**Conservation - Conservation**  
**Nature Center**  
Linda Chorce  
**Missouri Department of**  
**Natural Resources - Southwest**  
**Regional Office**  
Chuck Kroeger

**Natural Resources**  
**Conservation Service**  
Rita Mueller  
DeDe Vest  
**Ozark Greenways, Inc.**  
Terry Whaley  
**Rotary Club of Springfield -**  
**Southeast**  
Steve Montgomery, Pres.  
**Sequoiata School**  
**Solid Waste Management**  
**District Region "O"**  
Tim Smith  
**Southwest Mo. Cooperative**  
**Marketing Association**  
Bobby Gregg

**Springfield Area Chamber**  
**of Commerce**  
Brad Bodenhausen  
**Springfield Convention and**  
**Visitors Bureau**  
Tracy Kimberlin  
**Springfield/Greene County**  
**League of Women Voters**  
**Study Middle School**  
**University Outreach and**  
**Extension Office of**  
**Upper White River Basin**  
**Foundation**  
**Waste Management**  
Marie Steinwachs  
**Watershed Committee**  
**of the Ozarks**  
Loring Bullard

### **INDIVIDUALS:**

**Mark Bishop**  
**Kerry and Brad Bodenhausen**  
**Kevin Burgess**  
**Ann Carter**  
**Sally and Dean Carter**  
**Tracy Christensen**

**Dave and Elisa Coonrod**  
**Gary Deaver**  
**Art Elbert**  
**Becky Fay**  
**Cory Fearing**  
**Ann Hall**

**Drew Holt**  
**Shae Johnson**  
**Kevin S. Keppy**  
**Chris Landoll**  
**Barbara J. Lucks**  
**Judy and Paul McCune**

**Steve and Judy Meyer**  
**Jeannie Moreno**  
**Becky and Todd Parnell**  
**Stephen D. Short**  
**Donna J. Stairs**  
**Terry Whaley**

### **SHOW-ME YARDS & NEIGHBORHOODS CERTIFIED LAWN CARE PROFESSIONALS and ASSOCIATES:**

**Advanced Lawn Care Co.**  
**Affordable Lawn Care**  
**All Service Lawn & Garden**  
**Arbor Care of the Ozarks**  
**Beautiful Days Landscaping**  
**Bennett's LawnCare**  
**Blade Runner**  
**Caliber Lawn Service**  
**City of Branson**  
**City of Springfield Public**  
**Works/Public Grounds**  
**City of Springfield Public Works**

**City Utilities of Springfield**  
**Clark's Creative Landscaping**  
**Cochran Lawn Care**  
**Cutting Edge Lawn Care**  
**Envirascapes**  
**Galloway Greenscape LLC**  
**Green Acres Mowing**  
**Gregg Larsen Landscaping, Inc.**  
**JCB Enterprises**  
**King Landscaping**  
**Leisure Lawn Services**  
**Meadow Green of Springfield**

**Missouri Dept. of Agriculture**  
**Myron Royce Farms**  
**Natural Elements**  
**Ozark Greenways, Inc.**  
**Ozark Native Plant Works, LLC**  
**P & D Lawn Stylists**  
**Professional Landscape Services**  
**Robinson Lawn Service**  
**Southwest Missouri State**  
**University**  
**Speedy Sharp and Lube**  
**Springfield Lawn and Yard**

**Stan's Lawn Service**  
**Stine's Lawn Mowing**  
**Terrascapes**  
**Russell Scott Terrell**  
**Terry's Landscape**  
**The Grounds Keeper**  
**TruGreen ChemLawn**  
**University of Missouri - Rolla**  
**Vauble Construction**  
**Wolfe Lawn and Landscaping**  
**Nelda Zehner**  
**Zummo Agricultural Group**



## Show-Me Yards & Neighborhoods Lawn Care Professionals Certification Program

The following companies, institutions, and organizations have completed the Show-Me Yards & Neighborhoods Lawn Care Professionals Certification Program and are committed to protecting the environment with their products and services and, further, are committed to educating their customers and members in the use of environmentally sound lawn care practices.



<u>COMPANY NAME</u>	<u>INDIVIDUAL NAME</u>	<u>COMPANY PHONE</u>
Advanced Lawn Care Co.	Carl Davis	(417) 833-6575
Affordable Lawn Care	Rick Curtis	(417) 883-6179
All Service Lawn & Garden	David Lowry	(417) 882-4543
Arbor Care of the Ozarks	Kevin & Sandy Harrel	(417) 890-7776
Beautiful Days Landscaping	Seth Entwisle	(417) 886-7468
Bennett's LawnCare	Bruce Bennett	(417) 732-7780
Blade Runner	Bruce Fuller	(417) 882-9832
Caliber Lawn Service	Kevin Bowerman	(417) 863-1430
Caliber Lawn Service	Jeff Moore	(417) 863-1430
City of Branson	Cheryl Verdeyen	(417) 337-8544
City of Springfield Public Works/ Public Grounds	Michael Leffler	(417) 864-1135
City of Springfield Public Works	Mike Stafford	(417) 891-1660
City Utilities of Springfield	David Wilkerson	(417) 831-8402
Clark's Creative Landscaping	James (Mike) Clark	(417) 732-6653
Cochran Lawn Care	Dennis Cochran	(417) 881-5413
Cutting Edge Lawn Care	Saverio (Sal) Macaluso	(417) 889-6574
Envirascapes	Konstantinos Savvenas	(417) 860-2486
Galloway Greenscape LLC	Keith Harris	(417) 887-9947
Green Acres Mowing	Ruth Crigger	(417) 869-8636
Green Acres Mowing	Robert Ford	(417) 869-8636
Gregg Larsen Landscaping, Inc.	Gregg Larsen	(417) 889-4285
JCB Enterprises	Jimmy C. Morris	(417) 880-9449
King Landscaping	David King	(417) 532-1622
Leisure Lawn Services	Russ Prichard	(417) 833-2717
Meadow Green of Springfield	Nick Miller	(417) 882-6286
Missouri Dept. of Agriculture	James Collins	(573) 751-5511
Myron Royce Farms	Brian Fesseden	(417) 449-2648
Natural Elements	Tina Hymer	(417) 866-4901
Ozark Greenways, Inc.	Richard A. Mayer	(417) 864-2015
Ozark Native Plant Works, LLC	Frank Reynolds, Jr.	(417) 369-6102
P & D Lawn Stylists	Daniel Dulany	(417) 882-3060
P & D Lawn Stylists	Patricia Dulany	(417) 882-3060
Professional Landscape Services	Greg R. Colboch	(417) 725-2203
Robinson Lawn Service	Dennis M. Robinson	(417) 865-9229
Southwest Missouri State University	Richard T. Murphy, Jr	(417) 836-5963
Southwest Missouri State University	Chris Strodtman	(417) 836-5963
Southwest Missouri State University	Jeff Henry	(417) 836-5963
Speedy Sharp & Lube	Russ Prichard	(417) 833-2717
Springfield Lawn and Yard	Joseph Bennett	(417) 831-5041
Stan's Lawn Service	Leon Dugi III	(417) 883-3543
Stine's Lawn Mowing	Carl Stine	(417) 725-1636
Terrascapes	D. Michael Dressler	(417) 890-5901
Terry's Landscape	Terry Brown	(417) 833-1030
The Grounds Keeper	Steven Schmidt	(417) 887-6054
TruGreen ChemLawn	Russell Scott Terrell	(417) 869-2949
University of Missouri-Rolla	Shane Williams	(417) 832-5661
Vauble Construction	Charles (Jim) Duncan	(573) 341-4251
Wolfe Lawn and Landscaping	Larry Vauble	(417) 869-8713
	Mark Wolfe	(417) 863-9270
	Nelda Zehner	(417) 889-5000
Zummo Agricultural Group	Richard Zummo	(417) 886-8568

~ Show-Me Yards & Neighborhoods is a project of Springfield/Greene County Choose Environmental Excellence ~

**Funding Provided By:**

Missouri Dept. of Natural Resources  
City of Springfield/Public Works  
Watershed Committee of the Ozarks  
James River Basin Partnership

**Technical Assistance Provided By:**

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University of Missouri Outreach & Extension  
Master Gardeners of Southwest Missouri  
Ozarks Technical Community College  
Turf & Landscape Management Program

**Supporting Partners:**

Green County Resource Mgt.  
City Utilities of Springfield  
Southwest Missouri RC&D  
Greene County Soil & Water  
Conservation Service  
League of Women Voters

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## ***Earth Day 2002...a tremendous success!***

As in years past, from March 20 (first day of Spring) through April 19, the Springfield Conservation Nature Center, along with the City of Springfield, James River Basin Partnership, Ozark Greenways, Watershed Committee of the Ozarks and many other environmentally-based organizations, sponsored several environmental work projects.

A variety of clean up projects took place that involved Springfield Lake, Galloway Creek, McGraw's Ford, Jordan Creek and the Little Sac River, along with many others. The Table Rock Lake shore clean-up alone covered 200 miles of shoreline. A total of 123 tires and 890 bags of trash were collected. Ten 30-yard dumpsters were filled by the 500+ volunteers. Every volunteer received a t-shirt and a pass to the Army Corps of Engineers campground. About 100 volunteers participated in a post cleanup cookout sponsored by James River Basin Partnership and Journagan Construction and Aggregates.

Numerous beautification projects also took place around the city and county. Greene County Courthouse sponsored a flower bed planting. Springfield Conservation Center spruced up their entrance flower beds, along with planting, mulching, and weeding of several gardens. Portions of the trail and the wildlife viewing area received new layers of woodchip. Dickerson Park Zoo was the benefactor of tree planting and landscaping by Missouri Department of Natural Resource employees, as well as being the site of a variety of activities including "Endangered in Missouri" and presentations on snakes and how to identify them and an information session on elephants and what we are doing to save this animal from extinction.

On Saturday, April 20, the Earth Day Celebration at the Discovery Center served as the culmination of all the hard work, education, volunteer effort and enjoyment. Agencies and individuals involved in the preceding month of work projects shared their experiences and were recognized for their diligence. In addition, region-wide clubs, organizations, and agencies came together to announce accomplishments, encourage year-round activities, and recruit the assistance of environmentally-focused volunteers and support.

In a ceremony at the Discovery Center, the annual Springfield/Greene County ***Choose Environmental Excellence*** awards were presented:

Pleasant Hope High School Stream Team for excellence in their efforts to monitor and restore the North Dry Sac River in the Little Sac Watershed. Award sponsored by Watershed Committee of the Ozarks.

City Utilities of Springfield Transit Division for placing bike racks on city buses. Award sponsored by Ozark Greenways, Inc.

The Solid Waste Management District "O" sponsored three awards: Mike Inman, City of Springfield, for his assistance to members of the waste district regarding household hazardous waste disposal; Bette Houzenga, Ed and Pat Garton, City of Ozark Post Office for establishing and supporting the recycling program at the post office; Ray Birchler and Greene County Maintenance Staff for implementing a strong recycling program in the county offices.

Cheryl "Shae" Johnson, 4th Grade teacher at Greenwood Lab School, received the Environmental Educator Award sponsored by Barbara Lucks.

A presentation of the first Show-Me Yards & Neighborhoods yard sign to Dick Lawless was also a part of the awards ceremony.

*continued on page 9*

*continued from page 8*

Despite a little rain outside, a total of 881 children and adults greatly enjoyed the beauty of the Ozarks as celebrated at Earth Day 2002. Whether they came for the Fishin' Magicians, the Birds of Prey or the Snakes of Missouri presentations, hands-on environmental games, or the opportunity to see twenty+ environmental exhibitors, visitors had a wonderful time at this full-day event. Housed under one roof was the opportunity to recognize outstanding environmental stewardship, learn from the experts about water quality, practical tips for waste reduction, land use issues, environmentally-friendly products and discover meaningful ways to be informed and involved in the preservation of our Earth and its natural resources.

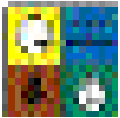
Earth Day at the Discovery Center is a project of Springfield/Greene County ***Choose Environmental Excellence***. For the fourth year, a sponsorship through Clariant LSM (formerly Archimica) permitted this event to be free to the general public; this year's entertainment was sponsored by the Missouri Department of Natural Resources.

Three community members received 2002 Earth Hero Awards during Earth Day activities at Dickerson Park Zoo on Saturday, April 20. Earth Hero Awards recognize individuals and groups who actively support environmental causes through involvement in activities that reduce waste, protect and preserve nature and wildlife, or clean up our environment.

**Kay Johnson** - Johnson, an accomplished nature photographer, has been an active leader and organizer of local environmental projects.

**Brian Shipman** - Shipman is currently an active board member of the James River Basin Partnership, an organization formed to educate the public about water quality specific to the James River Basin.

**Miriam Sullinger** - Sullinger and her husband have made environmentally-friendly lifestyle choices for most of their lives and have passed this on to their children.



## ***Missouri Department of Natural Resources***

The Southwest Regional Office is presently undergoing a building expansion and remodeling project. The 3500 square foot addition, an increase of about 44%, will include the addition/relocation of 35 cubical offices with systems furniture and eleven additional private offices, a larger file room, and a lab. Improvements to the existing section of the facility include upgrading the security system and reception area, providing a file review room and meeting rooms, enlarging the staff lounge and converting some less desirable office locations to storage areas.

A small conference room will be added and plans are to develop a "public" library complete with reference material, tapes, and internet access. The expanded parking lot will have a green space with a recycled plastic park bench and picnic tables. Five or six Soils staff members will also be relocated to the regional office soon after the remodeling is completed.

A permanent United States flag will fly over the building, making it easier for clients to locate the office. The new facilities and remodeling will not only make the office more staff friendly but also more "customer" friendly. Completion date is expected to be June, 2002.

## Discover A Bug's Eye View



BACKYARD MONSTERS®: They're ROBOTIC and they're BUGS...They're migrating to the Discovery Center of Springfield!

Things will be going buggy at Discovery Center of Springfield when Backyard Monsters®: The World of Insects opens on Saturday, June 1, 2002. The exhibit's giant robotic insects, which are up to 186 times their normal size, along with interactive learning displays and one of the world's largest private specimen collections, will give Discovery Center visitors a bug's-eye-view of life.

"This is a world where insects tower over humans and where bugs are bigger than trees," says Jim Hawkins, Traveling Exhibit Coordinator. "While giant animatronics bugs and hands-on displays will amaze and entertain our visitors, Backyard Monsters® is an educational exhibit, one that dramatically demonstrates the importance of insects in our lives."

The huge, moving creatures that make up Backyard Monsters® include an 11-foot tall praying mantis, a pair of carpenter ants, an Emperor scorpion, and a static dragonfly with a 10-foot gossamer wingspan. Most of the figures contain a system of animated robotics - "animatronics" - that enables it to exhibit up to 20 movements including moving heads, curling tails, snapping claws and creeping legs.

There are numerous hands-on educational-play stations in the Backyard Monsters® tour. "Small Talk" cleverly demonstrates to visitors what some bugs sound like by using everyday household items. Turning cranks and pulling ropes will allow visitors a chance to understand the workings of wings with "First Flyers"; and kids will be amazed by "Robo-bugs", six-legged robotic creatures that you control!

Backyard Monsters® will be on display at the Discovery Center of Springfield from June 1, 2002 to September 8, 2002. Admission is FREE to members and ASTC reciprocal members, \$5.00 children (3-12), \$6.00 Seniors, \$7.00 Adults. Hours are Tuesday - Friday 9 a.m.-5 p.m., Saturday 10 a.m.-5 p.m., Sunday 1-5 p.m.

The Discovery Center of Springfield (DCS) is an interactive, hands-on museum, "...committed to inspiring people of all ages with a life-long love of learning and an appreciation of the world and our place in it." Promoting Great Minds @ Play, the DCS interweaves many forms of science, health, technology, history, art and culture; one of our primary areas of educational focus is the environment. Central to our mission, the Discovery Center also has a free, year-round Enviro-Mania program series sponsored by the Solid Waste Management District Region O.

## News From ...

Bass Pro held their third successful "10-K Run for Conservation" with some 268 runners and 78 walkers. All registration fees went to benefit Ozark Greenways. The crowd pleaser for the event was the appearance of gold medal Olympian Frank Shorter, who ran the race along the South Creek Trail, and spent several hours signing autographs for the runners after the run.

Ozark Greenways would like to extend a word of thanks to the underwriters and partners that helped to make this year's Mark Twain Forest Adventure Race possible. Once again 85-four person teams have registered to participate in the event to be held June 1. The underwriters for the event are: Ozark Adventures, New Belgium Brewing Co., Sunshine Bike Shop and Saturn of Springfield. Partners are: Missouri National Guard, Amateur Radio Emergency Service, Springfield Blueprint, South Howell County Ambulance District, Twin Bridges Canoe Rental, Pepsi, SMSU Printing Services and SKH Paper.

## Help the environment...

Learn to compost yard waste and food waste at <[www.mastercomposter.com](http://www.mastercomposter.com)>

Check out Simple Steps to help the environment!  
Visit the *Choose Environmental Excellence* web site -  
[www.environ-excellence.org](http://www.environ-excellence.org)

Missouri now has nine *Choose Environmental Excellence* chapters!

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# **West Nile Virus - The Facts**

*by Clay Goddard, Springfield/Greene County Health Department*

West Nile virus is continuing to spread across portions of the United States with birds testing positive for the virus as close as the St. Louis area. This virus can cause illness and sometimes fatal encephalitis (also called inflammation of the brain) in people, horses, many types of birds and possibly other animals. It spreads through the bites of infected mosquitoes, but there is no evidence to suggest it can be spread from person to person or from animal to person.

The Springfield-Greene County Health Department has been performing active surveillance for West Nile virus in southwest Missouri for the past two summers. This surveillance process involves monitoring of hospitals and clinics for any increases in encephalitis and meningitis cases or people presenting with symptoms consistent with these illnesses. Secondly, the Department has worked closely with the United States Department of Agriculture in the collection of live birds in Greene County for testing for the West Nile virus.

Last fall the Department began collecting dead bird specimens in an effort to add another tool to the West Nile Virus Surveillance Program. The Springfield-Greene County Health Department urges citizens who find dead or dying crows, blue jays, and hawks to contact the Springfield-Greene County Health Department at 417-864-1655. Staff from the Springfield-Greene County Health Department will collect these birds and ship them to the National Wildlife Testing Laboratory in Madison, Wisconsin, for diagnostic testing for West Nile virus.

## **Here are some common questions about West Nile virus:**

### **Where did West Nile virus come from?**

West Nile virus has been commonly found in humans, birds, and other animals in Africa, Eastern Europe, Western Asia, and the Middle East, but until 1999 had not previously been documented in the Western Hemisphere. The U.S. viral strain is most closely related genetically to strains found in the Middle East.

### **What are the symptoms of West Nile virus infection?**

Most people infected with this virus do not have any symptoms. Some people, though, experience a mild illness characterized by slight fever, headache, body aches, skin rash, and swollen lymph nodes. More severe illness can include encephalitis (inflammation of the brain) and is marked by a rapid onset of a high fever, head and body aches, neck stiffness, muscle weakness, disorientation, coma, tremors, convulsions, and in the most severe cases, death.

### **How soon after exposure do symptoms appear?**

Symptoms usually appear 3 to 15 days after exposure.

### **If I live in an area where birds or mosquitoes with West Nile virus have been reported and a mosquito bites me, am I likely to get sick?**

No, even in areas where mosquitoes do carry the virus, very few mosquitoes (much less than 1%) are infected. If the mosquito is infected, less than 1% of people who get bitten and become infected will get severely ill. The chances you will become severely ill from any one mosquito bite are extremely small.

### **How can I protect myself from West Nile virus?**

It is not necessary to limit any outdoor activities. However, you can and should try to reduce your risk of being bitten by mosquitoes. Mosquitoes are most active at dawn and dusk. Reducing the mosquito population around your home and property can be accomplished by eliminating standing water:

- Dispose of tin cans, plastic containers, ceramic pots or similar water-holding containers.
- Remove all discarded tires on your property. Used tires are very significant mosquito breeding sites.
- Drill holes in the bottoms of recycling containers that are kept outdoors.
- Make sure roof gutters drain properly, and clean clogged gutters in the spring and fall.
- Turn over plastic wading pools and wheelbarrows when not in use.
- Change the water in birdbaths at least weekly.
- Clean vegetation and debris from edges of ponds.
- Clean and chlorinate swimming pools, outdoor saunas, and hot tubs.
- Drain water from pool covers.
- Use landscaping to eliminate standing water that collects on your property.

In addition to reducing standing water in your yard, make sure all windows and doors have screens, and that all screens are in good repair. If West Nile virus is found in your area:

- Wear long-sleeved shirts and long pants whenever you are outdoors.
- Spray clothing with repellents containing permethrin or DEET since mosquitoes may bite through thin clothing. Apply insect repellent sparingly to exposed skin. An effective repellent will contain 35% DEET (N,N-diethyl-meta-toluamide). DEET in high concentrations (greater than 35%) provides no additional protection. Repellents may irritate the eyes and mouth, so avoid applying repellent to the hands of children. Whenever you use an insecticide or insect repellent, be sure to read and follow the manufacturer's DIRECTIONS FOR USE, as printed on the product.

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## Attention Bookworms...



## Something Old, Something New...

***“The First 50 Years”*** traces the history of the Conservation Department from 1937 through 1987, with extensive historical notes on the period before the agency’s creation. Free of charge in electronic form at:

[www.conservation.state.mo.us/about/50\\_yrs/](http://www.conservation.state.mo.us/about/50_yrs/)

***“Native Landscaping for Wildlife and People”*** describes the species of native wildflowers, shrubs, and trees that attract wildlife. It also supplies many ideas for enjoying nature around your home while benefiting wildlife and beautifying your property. Written by biology professor and native plant landscaper, Dave Tylka, it retails for \$18 and is available at Conservation nature centers and other booksellers statewide.

***“The Springs of Greene County”*** describes the formation, history, and uses of Greene County’s springs. The publication is the collaboration of three authors: Loring Bullard, Watershed Committee of the Ozarks; Jim Vandike, Missouri Department of Natural Resources; and Dr. Ken Thomson, Southwest Missouri State University. Mr. Bullard reviews the history of Greene County’s springs, such as the legendary ‘bottomless well’ at Springfield’s founding site. Mr. Vandike explains the underlying geology that gives rise to springs and other karst features, such as caves, sinkholes, and losing streams. Dr. Thomson describes the major spring systems in the county. A limited number of copies of the book are available at the Watershed Committee office at 320 N. Main Avenue, Springfield, at a cost of \$15.00. It is also available online at the DNR website as Water Resources Report No. 68:

<http://www.dnr.state.mo.us/geology/adm/publications>

Missouri now has two bird books by Missouri authors...

***“Birds in Missouri”*** is illustrated by three artists and written by Conservation Department Ornithologist Brad Jacobs. This beautiful full-color, 450 page book illustrates 355 bird species and describes their plumage, foods, mating, nest behavior, habitat preference and other characteristics. The softbound book retails for \$30 and the hardbound edition retails for \$38.

***“Common Birds of North America--Midwest Edition”*** is written by retired ornithologist James D. Wilson. This knapsack-sized book is well-suited for use in the field. It answers commonly asked questions about 90 of the most common bird species and covers most of the birds you are likely to see in Missouri. Also included are dramatic color illustrations, seasonal distribution maps, identification tips and hints for enjoying birds and attracting them to feeders. The softbound book retails for \$22.50.

Both bird books can be purchased at most Conservation Department offices, including the Springfield Conservation Nature Center and the Southwest Regional Office. They can also be ordered through the NatureShop by calling toll-free (866) 521-8632 or online at:

[www.mdennatureshop.com](http://www.mdennatureshop.com)

## Ways to Defeat Plant Disease

Plant diseases are generally more prevalent in warm, humid conditions, particularly when ventilation is poor or if plants are overcrowded. But diseases can be prevented if plants are treated with care. These eight tips from Alberta Agriculture, Food and Rural Development will help ward off problems.



1. Always use sterile potting soil or rooting medium.
2. Clean and disinfect old pots with bleach if you reuse them.
3. Keep hand tools clean.
4. Water plants carefully. Water standing in a plant’s crown encourages fungal or bacterial growth, which may cause stem or crown rot. Water left standing on leaves, flowers, and buds may encourage development of Botrytis blight or other diseases.
5. Do not over water plants. Roots that cannot get enough air will die, weakening plants and making them susceptible to diseases.
6. Provide adequate ventilation and avoid overcrowding so that each plant receives fresh, circulating air.
7. Protect plants from cold drafts or temperature fluctuations.
8. Remove faded leaves and flowers because they can provide sites for disease development.

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RLawns in Missouri may require as much as 1 to 1 1/2 inches of water per week from irrigation or rainfall during summer to remain green and actively growing -- much less is required if the lawn is allowed to go dormant during hot, dry spells.

RDeeper roots draw moisture from a larger volume of soil and therefore require less supplemental irrigation.

RTaller grass has deeper roots and a lower tendency to wilt.

RTaller grass provides shading of the soil surface and reduces lethal temperatures near the base of grass plants.

RLawns mowed weekly at a taller mowing height are less likely to be scalped. Scalped lawns lose density and have shallow root systems.

If high temperatures and dry conditions continue without rain or irrigation, the above-ground portion of grasses will turn entirely brown and die. Grasses are said to be dormant during this browned-out stage, since the lower portion of the plant usually remains alive but not growing. Thorough watering will bring the lawn out of dormancy and new growth will resume from the below-ground base of grass plants.

Dormant lawns should receive at least 1 inch of water every two or three weeks during summer to prevent complete turf loss. Grasses may not show a noticeable greening, but that amount of irrigation should be sufficient to hydrate the lower plant portions and increase the recovery once adequate moisture is available.

Management practices in the fall and spring determine drought tolerance of the lawn in summer. To reduce the need for irrigation, your lawn management program should maximize root volume and depth in preparation for summer drought. By the time summer rolls around, there is little you can do to help a lawn except mow and irrigate properly.

**1. Avoid the temptation to irrigate in spring just to get grass growing.** Allow it to green up naturally. Mow frequently and avoid scalping. Do not begin to irrigate until dry conditions of early summer cause obvious turf wilt that lasts for more than one day.

**2. Mow grass as tall and as frequently as possible with a properly sharpened blade to produce a dense cover with a deep root system.** Taller grass has a larger volume of soil and results in less need for irrigation. Grass height should never be less than 2 1/2 inches after mowing. Mow frequently enough so that clippings are 1 to 1-1/2 inches long. Remove no more than 1/3 of the blade. Raise the mower height if grass has grown too tall since the previous mowing. A lawn mowed at heights of 3 to 3 1/2 inches will have a better chance of surviving prolonged drought and water restrictions.

**3. Apply organic or chemical fertilizer, if needed, in the fall.** Avoid summer application of nitrogen. Nitrogen fertilizer applied in the spring and summer causes additional leaf growth, which uses stored plant energy that normally would be used to produce roots needed for water uptake during summer.

**4. Test the soil to determine the proper amount of phosphorus, potassium, and other nutrients needed.** Excess fertilizer will not benefit the lawn and will wash off the lawn, contributing to excess algae problems in nearby streams, rivers, or lakes.

**5. Core aerify tight soils and thatched turf in the fall or spring to increase water and air movement into the soil.** Take advantage of this activity to add organic material (compost) to your lawn. This builds better root systems. Avoid summer coring in the absence of water, since it may cause excessive drying and drought stress.

**6. Limit thatch removal by power raking or verticutting to fall or early spring or fall, since water demands are low and turf recovery is rapid.** Do not severely power rake lawns in the late spring or summer or they will require excessive irrigation to remain alive. When necessary, severe power raking and seeding should be done in September.

**7. Select grasses that require less summertime irrigation to remain attractive.** Zoysia is a warm-season grass and tall fescue is a cool-season grass. Both are noted for the ability to make an attractive summer lawn with less irrigation. Buffalo grass may also be a viable alternative grass.

**8. The best time to water a lawn is from 6-8 a.m.** During this time the water pressure is highest, disruption of the water pattern from wind is low, and water lost to the atmosphere by evaporation is negligible. Watering early in the morning also has the advantage of reducing the chance of turf diseases that require extended periods of leaf moisture. Avoid irrigation during midday and windy conditions.

**9. Water problem areas by hand to postpone the need for irrigation of the entire lawn.** Some areas of a lawn usually wilt before others. These areas, or "hot spots," may be caused by hard soils that take up water slowly, slopes, southern exposures and warmer areas next to drives and walks. Lawns that have unusual shapes also may require some hand watering to avoid unnecessary watering of paved surfaces, mulched beds and buildings. Soaker hoses that have a narrow pattern and supply water at a slow rate may be useful in these areas.

Most soils in Missouri will take in only about 1/2 inch of water per hour. If your sprinkler system delivers more than that amount, move it

to a different location more frequently. Repeat the process until the full amount of water desired has been applied.

Once the decision has been made that a lawn has sufficiently wilted and irrigation is needed, supply enough water to last a week. Depending on the type of sprinkler and soil water infiltration rate, several sprinkler changes may be required over a two- or three-day period to supply the amount of water desired.

If no rainfall occurs, continue to irrigate on a weekly schedule. If rainfall occurs, delay the next irrigation until symptoms of wilt are present. Even though water application is discussed on a weekly basis, it is not crucial that water be applied every seven days. Keep the application schedule flexible and irrigate based on the determination of lawn wilting and soil moisture.

Lawn type	Green turf <sup>1</sup> (inches of water per week)	Dormant turf <sup>2</sup> (inches of water per week)
Perennial ryegrass	1.5	1.0
Kentucky bluegrass	1.2	0.7
Tall fescue	0.8	0.5
Zoysia or bermuda	0.5	0.2
Buffalograss	0.3	0.2

<sup>1</sup>Lawn remains green and growing.

<sup>2</sup>Lawn may turn brown, but will not die.



## *Mowing Tips*

Mowing comprises about 95% of lawn care - but mowers and cutting blades are often the most overlooked elements of maintaining a healthy lawn.

**RTune up your mower engine - or look for specials for professional tune-ups.** An efficient engine will run smoother and faster, cut grass more quickly and evenly, and will help your clippings break down faster by cutting into smaller pieces. It will also cause less air pollution, use less fuel, and save mowing time.

**RSharpen your blade.** Carefully remove the blade and bring it to the shop for sharpening (usually covered by most tune-ups). A handy tip: Buy an extra cutting blade to switch off when you need a sharpening. Sharp blades provide a clean cut, which heal more quickly. Dull blades rip and tear grass, which leaves them open to disease organisms. Poor cutting also results in lawns taking on a dull, brown appearance.

**RAAlter your mowing pattern to avoid soil compaction.**

## *Recycling for Kids...*

The U.S. EPA has a fun, interactive web page for kids - [www.epa.gov/recyclecity](http://www.epa.gov/recyclecity)



***Choose Environmental Excellence***

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[http://www.ci.springfield.mo.us/community/cee\\_newsletter.html](http://www.ci.springfield.mo.us/community/cee_newsletter.html)